IN THE CLAIMS

1. (original) Apparatus for the creation of electronic data software for yielding information for indication of antimicrobial synergism for a fragrance-antibacterial formulation or for a perfumed article-antibacterial formulation comprising:

(a) means for the ascertainment of specific antimicrobial fragrance or perfumed article components, which individually eliminate given microorganisms on a solid or semi-solid surface or in a three-space inhabited by said microorganisms, measured by δA_i or δV_i with associated data input to the memory of a computer server ;

(b) means for formulating one or more mixtures of said specific antimicrobial fragrance or perfumed article compositions of (a) having weight fractions or mole fractions of components f_{i_A} and f_{i_B}, with associated data input to the memory of a computer server;

(c) means for ascertainment of data indicative of antimicrobial activity of the mixtures of (b), Δ_A, with associated data input to the memory of a computer server;

(d) means for calculation of the expected value, Δ_E , of antimicrobial activity of the mixtures of (b) using the inputted, stored memory data of (a)(δA_i or δB_i) and (b) (f_{i_A} and f_{i_B}) according to the algorithm $\Delta_E = \Sigma \delta A_i f_{i_A} + \Sigma \delta B_i f_{i_B}$;

(e) means for storing in the computer memory, the data required for calculation of $\mathbf{K}$, the IFF antimicrobial/olfactory synergism test constant which is the product of Δ_E and π, a pre-selected confidence interval fraction in the range of from about 0.005 up to about 0.1;

(f) means for ascertainment of the difference, $(\Delta_A - \Delta_E)$ and the product, $(\pi)\Delta_E$ with associated data input;

(g) means for instructing the setting of a system to accept a formulation in the event $(\Delta_A - \Delta_E) \geq \mathbf{K}$ or $\lambda > 0$, and reject a formulation in the event of: $\lambda \leq 0$ wherein λ is a measure of the degree of synergism defined according to the formula: $\lambda = (\Delta_A - \Delta_E) - \mathbf{K}$; and

(h) means for instructing the repeating of steps (a) – (g) inclusive in the event of a result of:

$$\lambda \leq 0.$$

Claims 2-32 (cancelled).

Claim 33 (new).   Apparatus for the creation of electronic data software for yielding information for indication of antimicrobial synergism for a fragrance-antibacterial formulation or for a perfumed article-antibacterial formulation comprising:

(i)   means for the ascertainment of specific antimicrobial fragrance or perfumed article components, which individually eliminate given microorganisms on a solid or semi-solid surface or in a three-space inhabited by said microorganisms, measured by δ_{A_i} or δ_{V_i} with associated data input to the memory of a computer server;

(j)   means for formulating one or more mixtures of said specific antimicrobial fragrance or perfumed article compositions of (a) having weight fractions or mole fractions of components f_{i_A} and f_{i_B}, with associated data input to the memory of a computer server;

(k)   means for ascertainment of data indicative of antimicrobial activity of the mixtures of (b), Δ_A, with associated data input to the memory of a computer server;

(l)   means for calculation of the expected value, Δ_E , of antimicrobial activity of the mixtures of (b) using the inputted, stored memory data of (a)(δ_{A_i} or δ_{B_i}) and (b) (f_{i_A} and f_{i_B}) according to the algorithm $\Delta_E = \Sigma \delta_{A_i} f_{i_A} + \Sigma \delta_{B_i} f_{i_B}$;

(m) means for storing in the computer memory, the data required for calculation of K, the IFF antimicrobial/olfactory synergism test constant which is the product of Δ_E and π, a pre-selected confidence interval fraction in the range of from about 0.005 up to about 0.1;

(n)   means for ascertainment of the difference, $(\Delta_A - \Delta_E)$ and the product, $(\pi)\Delta_E$ with associated data input;

(o) means for instructing the setting of a system to accept a formulation in the event

$(\Delta_A - \Delta_E) \geq K$ or $\lambda > 0$, and reject a formulation in the event of: $\lambda \leq 0$ wherein λ is a

measure of the degree of synergism defined according to the formula: $\lambda = (\Delta_A - \Delta_E) - K$; and

(p) means for instructing the repeating of steps (a) – (g) inclusive in the event of a result of: $\lambda \leq 0$.

Claim 34 (new).   The apparatus of claim 33 wherein the degree of synergism defined according to the formula:

$\lambda = (\Delta_A - \Delta_E) - K$ is according to the formula, $\lambda = (D_A - D_E) - K$ wherein D_A is

the average diameter of the zone of antimicrobial inhibition, and D_E is the expected value of the

average diameter of the zone of antimicrobial inhibition.

Claim 35 (new).   The apparatus of claim 34 wherein λ is a linear function of μ, which is defined

according to the formula: $\mu = \frac{1}{10}(MW - 100)$ and MW is the molecular weight of the

organoleptically-compatible antimicrobial synergism cofactor.

Claim 36 (new). A process for formulating an antimicrobial synergistic composition for creation
of an antimicrobial formulation containing components "A" and "B" wherein component "A" is a
proposed antimicrobial substance and component "B" is a proposed organoleptically-compatible
antimicrobial synergism cofactor substance comprising the steps of:

(a)   testing pure component "A" for antimicrobial activity and determining the diameter of

the zone of inhibition measuring antimicrobial activity thereof, D_S;

(b)   testing pure component "B" for antimicrobial activity and determining the diameter of the

zone of inhibition measuring antimicrobial activity thereof, D_B;

(c)   inputting into computer memory the component "A" test results;

(d)   inputting into computer memory the component "B" test results;

(e)   formulating a mixture of components "A" and "B" having, respectively, mole fractions f_S and f_B;

(f)   inputting into computer memory the formulation data;

(g)   calculating the expected value, D_E of the dimension of the antimicrobial zone effected by the application of the formulation, according to the formula: $D_E = f_B D_B + f_S D_S$;

(q)   testing for antimicrobial activity, the mixture of components "A" and "B"and determining the value of the zone of inhibition measuring antimicrobial activity thereof, D_A;

(r)   inputting into the computer the values of D_E and D_A;

(s)   inputting instructions into the computer memory for the ascertainment of the value of λ, the degree of synergism, using the algorithm: $\lambda = (D_A - D_E) - K$ wherein the value of K is the product of the expected value of the zone of inhibition, D_E and π, the value of a preselected confidence interval fraction between about 0.005 and 0.1, $K = \pi D_E$;

(t)   inputting instructions into the computer memory for the setting of the system to accept the formulation of the mixture of components "A" and "B" in the event of the existence of synergism wherein $\lambda > 0$;

(u)   inputting instructions into the computer memory for the rejection of the formulation in
        the event of a lack of synergism wherein $\lambda \leq 0$; and

(v)   inputting instructions into the computer memory for reformulation and/or rechoice of
        components in the event of rejection of the formulation in the event of a lack of
        synergism wherein $\lambda \leq 0$.

Claim 37 (new).   The process of claim 36 wherein component "A" is salicylaldehyde.

Claim 38 (new).   A process for eliminating at least one microorganism selected from the
group consisting of:

> *Eschericia coli;*
> *Enterococcus hirae;*
> *Pseudomonas aeruginosa;*
> *Staphylococcus aureus; and*
> *Saccharomyces cerevisae*

from the scalp epidermis or scalp hair inhabited by at least one of said microoganisms and
imparting fragrance thereto, comprising the step of applying to said scalp epidermis or scalp hair
a microorganism-eliminating concentration and quantity of a hair spray formulation comprising a
compatible fragrance and an efficacious quantity and concentration of a mixture of indole, 4-
terpinenol and salicylaldehyde, wherein said indole and 4-terpinenol are synergistic cofactor
substances for said salicylaldehyde.

Claim 39 (new).   The process of claim 38 wherein the weight ratio of
saliucylaldehyde:indole:4-terpinenol is 1:1:1.